CLAIMS

We claim:

1.   1. A method of transmitting a large number of small data files to a large number of customers comprising the acts of:

    transmitting a plurality of data files simultaneously to a plurality of users, wherein at least one of said data files is transmitted at a rate greater than the play rate of said data file.

2.   2. The method of claim 1 including transmitting an electronic program guide (EPG) to said plurality of users, wherein said user may select said selected data file using said electronic program guide.

3.   3. The method of claim 1 wherein each data file is transmitted repeatedly.

4.   4. The method of claim 3 wherein each data file has an allocated bandwidth, wherein said data files are repeatedly transmitted on a corresponding allocated bandwidth.

5.   5. The method of claim 2 wherein an icon corresponding to each data file is displayed via the EPG such that a user may select the data file by selecting the displayed icon.

6.   6. The method of claim 1 wherein at least one of said plurality of data files is a karoake music file including audio and visual data.

7.   7. The method of claim 1 wherein at least one of said plurality of data files is a text file including textual information.

1   8. The method of claim 7 wherein said text file includes a plurality of pages,

2   wherein at least one page contains textual information.

1   9. The method of claim 8 wherein at least one of said pages includes a graphic

2   image.

1   10. The method of claim 9 wherein said graphic image is formatted as a JPEG

2   image.

1   11. The method of claim 8 wherein at least one of said plurality of pages is an

2   index including information indicative of the contents of at least one other page.

1   12. The method of claim 7 wherein a service corresponding to a transaction

2   feature contained in said text file may be activated by said first user.

1   13. The method of claim 12 wherein a set top box (STB) transmits an electronic

2   message in response to said activation of said transaction feature.

1   14. The method of claim 13 wherein said electronic message includes an order for

2   the purchase of goods from a third party provider.

1   15. The method of claim 13 wherein said electronic message includes an order for

2   the purchase of services from a third party provider.

1   16. The method of claim 13 wherein said electronic message includes an order

2   directing funds to be deposited in an account for payment of a bill.

1   17. A method of downloading data files broadcast periodically, using an intelligent STB

2   comprising:

3   receiving a user input indicating at least one selected data file;

4   initiating an authorized download of at least a first part of the selected data file

5   broadcast during the first time interval;

6   displaying at least a portion of said first part of the selected data file;

7   retrieving a second part of the data file broadcast during the second time interval,

8   wherein at least a portion of said first part is being displayed during said second time

9   interval; and

10   displaying at least a portion of said second part of the selected data file.

1   18. The method of claim 17 further comprising:

2   retrieving additional parts of the data file broadcast during an additional time

3   interval; and

4   rearranging all the parts to reconstitute the complete data file.

1   19. The method of claim 17 further comprising:

2   determining the waiting time necessary before playing said data file to assure that

3   data blocks corresponding to said data file are received before they are scheduled to be

4   played.

1   20. An apparatus for retrieving data files broadcast repetitively over at least a

2   first time interval and a second time interval comprising:

3   means for receiving a file request from a user selecting at least one of the

4   broadcast data files;

5   means for initiating an authorized file retrieval process to retrieve at least a first

6   part of the data file broadcast during the first time interval;

7   means for displaying at least a portion of said first part of the data file during at

8   least a portion of the second time interval;

9   means for retrieving a second part of the data file broadcast during the second

10   time interval; and

11   means for displaying at least a portion of said second part of the data file.

1   21. The apparatus of claim 20 further comprising means for requesting an

2   authorization for retrieval of the file requested.

1   22. The apparatus of claim 20 further comprising:

2   means for retrieving a third part of the data file broadcast during a third time

3   interval; and

4   means for rearranging the first, second and third parts to reconstitutes the complete data

5   file.

1   23. The apparatus of claim 20 wherein an EPG is received by a user STB and

2   presented to the user.

1   24. The apparatus of claim 20 wherein the user STB automatically determines a

2   download time and a play time from data transmitted with the EPG corresponding to the

3   file selection by the user and automatically displays at least a portion of said file after a

4   waiting period, said waiting period duration being responsive to said download time and

5   said play time.

1   25. The apparatus of claim 21 wherein the user STB automatically calculates a

2   waiting period duration responsive to said play time and said download time.

1   26. The apparatus of claim 22 wherein said waiting period is further responsive to

2   the number of data blocks comprising said file.

1   27. An apparatus for retrieving data files broadcast repetitively over at least a

2   first time interval and a second time interval comprising:

3   an input device for receiving a file request from a user selecting at least one of the

4   broadcast data files;

5   a processor for initiating an authorized file retrieval process to retrieve at least a

6   first part of the data file broadcast during the first time interval; and

7   an output device for displaying at least a portion of said first part of the data file

8   during at least a portion of the second time interval;

9   wherein said processor is further operative for retrieving a second part of the data

10   file broadcast during the second time interval.

1   28. The apparatus of claim 27 further comprising a communications port for

2   requesting an authorization for retrieval of the file requested.

1   29. The apparatus of claim 27, wherein said processor is further operative for

2   retrieving a third part of the data file broadcast during a third time interval and

3   rearranging the first, second and third parts to reconstitute the complete data file.

1   30. The apparatus of claim 27 wherein an EPG is received by a user STB and

2   presented to the user.

1   31. The apparatus of claim 27 wherein the user STB automatically determines a

2   download time and a play time from data transmitted with the EPG corresponding to the

3   file selection by the user and automatically displays at least a portion of said file after a

4   waiting period, said waiting period duration being responsive to said download time and

5   said play time.

1   32. The apparatus of claim 28 wherein the user STB automatically calculates a

2   waiting period duration responsive to said play time and said download time.

1   33. The apparatus of claim 29 wherein said waiting period is further responsive to

2   the number of data blocks comprising said file.

1   34. A data on demand (DOD) broadcast system for transmitting a large number

2   of small data files comprising:

3   a DOD broadcast server for broadcasting a plurality of data files;

4   a transmission medium communicatively coupled with said DOD broadcast

5   server;

6   a plurality of receivers communicatively coupled with said DOD broadcast server

7   via said transmission medium;

8   wherein said DOD broadcast server repeatedly transmits a plurality of data files to

9   said plurality of receivers via said transmission medium;

10   wherein said receivers are operative to enable a user to select at least one data file;

11   wherein said receivers are operative to perform an authorization check relating to

12   said selected data file;

13   wherein said receivers are further operative to receive said selected data file; and

14   wherein said receivers are further operative to display a portion of said selected

15   data file to said user.

1   35. A set top box apparatus for accessing small DOD data files broadcast over a

2   wide area network comprising;

3   a user input device for selecting a desired data file;

4   a first communication link for requesting authorization to access said selected

5   data file;

6   a second communications link for receiving authorization to access said selected

7   data file;

8   a processor for tuning into a bandwidth corresponding to said selected data file;

9   and

10   a third communications link for receiving said selected data file.

1   36. The apparatus of claim 35 including a display device for displaying at least a

2   portion of said selected data file.

1   37. The apparatus of claim 35, wherein said processor is further operative to

2   automatically begin displaying said selected data file when a minimum portion of said

3   selected data file has been received.

1   38. The apparatus of claim 36 wherein said input device is further operative to

2   receive user input activating a transaction feature, wherein visual data associated with

3   said transaction feature is displayed via said display device.

1   39. A DOD broadcast server apparatus for transmitting a large number of small

2   DOD data files to a large number of recipients over a wide area network comprising;

3   a storage server for storing data files;

4   a channel server for retrieving selected data files from said storage server;

5   a transmitter for repeatedly transmitting a first data file over an allocated

6   bandwidth such that a receiver may access said first data file within a predetermined time

7   period.

1   40. The apparatus of claim 39 wherein said time period is less than the time

2   required to download said first data file.

1   41. The apparatus of claim 39, further comprising:

2   a service authorization processor operative to receive authorization requests from

3   clients and to provide authorization codes to clients to view a selected data file, wherein

4   said service authorization processor is further operative to send information indicative of

5   said selected data file to a billing apparatus; and

6   wherein said billing apparatus is operative to update client billing records in

7   response to said information.